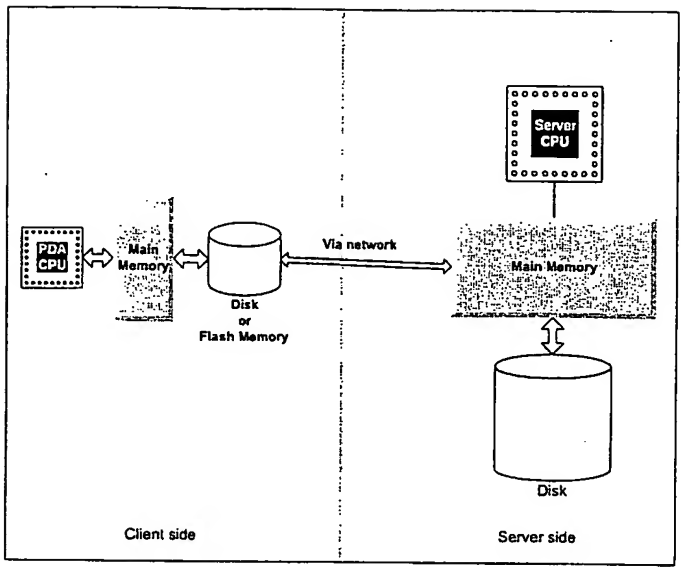

Figure 1

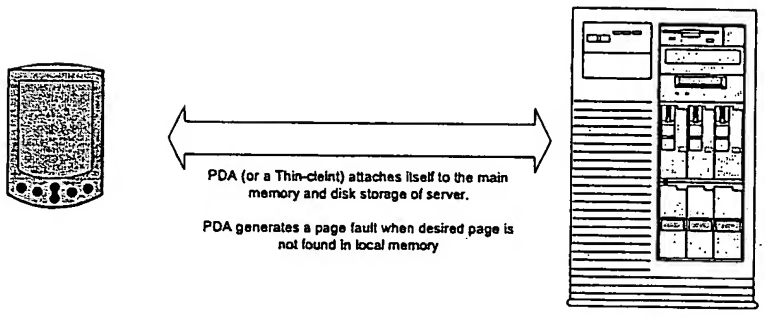

Figure 2:

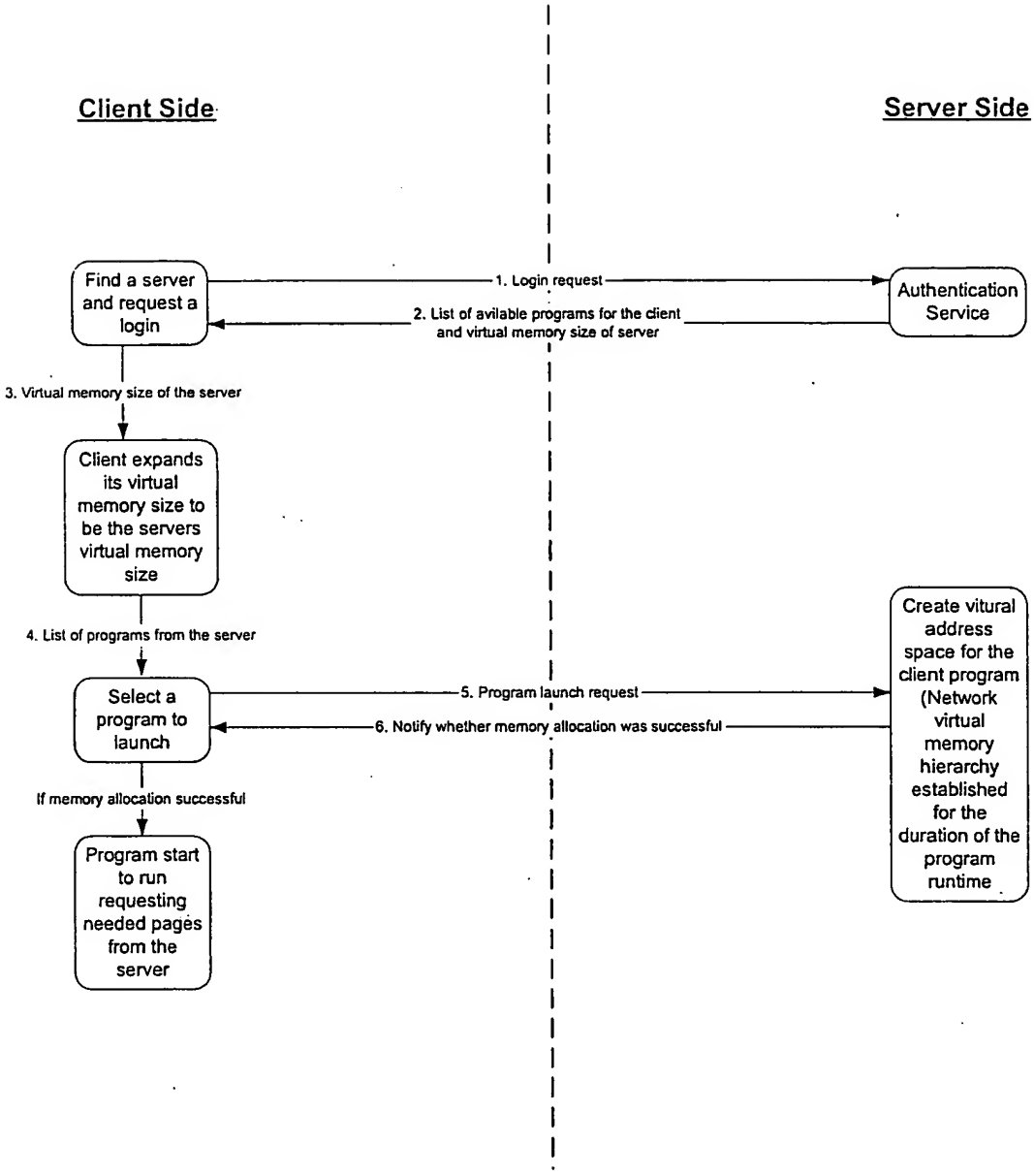
Client Side
Server Side
Find a server and request a login
1. Login request
Authentication Service
2. List of avilable programs for the client and virtual memory size of server
3. Virtual memory size of the server
Client expands its virtual memory size to be the servers virtual memory size
4. List of programs from the server
Select a program to launch
5. Program launch request
6. Notify whether memory allocation was successful
Create vitural address space for the client program (Network virtual memory hierarchy established for the duration of the program runtime
If memory allocation successful
Program start to run requesting needed pages from the server

Figure 3:

```
Process PINVM_client ()
      begin
   if (successful contacting a PINVM server)
      Send the client info.  (i.e., architecture, OS, etc.)
      Prompted login
      if (login successful)
         get server's available virtual memory space size for client
         attach the virtual memory space to the client's memory hierarchy
         get the list of programs for the client from the server
      endif
      When the user wants to launch a program in the server
         Fork off a child process for a PINVM service for the program
      EndWhen
   endif
end
```

Figure 4:

```
Process PINVM_application_server_daemon ()
      begin
   name = get application program name to load;
   addrspace = create_vm (name);
   while (not program_termination);
      virtual_address = wait_for_page_fault (from_client);
      handle_page_fault(virtual_address);
      send the page over to the client
   end_while
end
```

Figure 5: